

REMARKS

Support for new claim 27 can be found, for example, in original claim 14. Support for new claim 28 can be found, for example, in the specification at page 6, lines 8 - 9. No new matter has been added.

Rejections under 35 USC 112

Claims 1-4, 8, 10-12, 14, 24, and 26 stand rejected under 35 U.S.C. 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is believed that the amendments to the claims, in part, render the rejections moot. With regards to the definition of the A radical in formula I, applicants wish to clarify that A is a hydrocarbon chain that forms a heterocyclic ring together with X.

Thus, it is respectfully requested that the rejections under 35 USC 112 be withdrawn.

Rejections under 35 USC§102

Claims 1-23, 25, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Heider et al (US6,582,849).

The Examiner alleges that the claimed salts are disclosed at pages 1 and 2 (formula I) of Heider (US6,582,849).

Heider provides a very broad generic teaching of compositions containing any of a number of broadly defined $(CF_3)_2N^+$ salts comprising tetraalkylammonium and comparable cations. The generic formula I encompasses a vast number of possible compounds. The disclosure must be considered as a whole as to whether it fairly suggests the claimed invention to one of ordinary skill in the art, let alone anticipate it. One may look to the preferred embodiments to determine which compounds can be anticipated. *In re Petering*, 301 F.2d 676, 133 USPQ 275 (CCPA 1962). Although the disclosure is not limited by its Examples, the Examples must be considered in assessing what the disclosure as a whole discloses. Every single example of Heider lacks a heterocyclic cation, as the Examiner agrees. The heterocyclic cations according to the present invention are only disclosed as one

possibility among many, many possibilities in a very broad generic formula, but they are not disclosed with the particularity necessary for anticipation.

Accordingly, applicants urge that there is not even a fair suggestion from the Heider disclosure of compositions containing a heterocyclic cation and there is nothing within Heider to direct a skilled worker to choose a heterocyclic cation. Furthermore, with regards to claim 19, Heider does not disclose the use of the present compounds as ionic liquids.

Thus, it is respectfully requested that the rejection under 35 USC §102 be withdrawn.

Rejections under 35 USC 103

Claims 1-23, 25 and 26 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Heider et al (US6,582,849) as applied above, and further in view of Nanjundiah et al (US 5,872,602).

The fact that a claimed species or subgenus is encompassed by a prior art genus is not sufficient by itself to establish a *prima facie* case of obviousness. *In re Baird*, 16 F.3d 380, 382, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994. " A reference must be considered not only for what it expressly teaches, but also for what it fairly suggests" *In re Baird*, quoting, *In re Burckel*, 201 USPQ 67, 70 (CCPA 1979). *Ex parte Kuhn*, supra, specifically holds that an applicant is entitled to a highly specific contribution within a patent's general disclosure since the patent had no appreciation of such contribution.

As discussed above, there is no suggestion from the Heider disclosure of compositions containing a heterocyclic cation and there is nothing within Heider to direct a skilled worker to choose a heterocyclic cation. The combination of Heider with Nanjundiah would not lead a skilled worker to arrive at the compounds of the present invention, when considering properties of the claimed compounds. As can be see on page 6, lines 8 - 9 of the specification the ionic liquids of the present invention are not hydrophobic. They are to a certain extent miscible with water. In contrast, Nanjundiah teaches hydrophobic ionic liquids which are poorly soluble in water. See col. 2, lines 5 - 9. Furthermore, Nanjundiah teaches ionic liquids comprising anions X^- having a van der Waals volume exceeding 100 \AA^3 , preferably 140 \AA^3 (col. 3, lines 3 - 7). However, as can be seen on page 6 at lines 4-6 of the

specification, the van der Waals volume of anions according to the present invention is only, for example, 90.90 \AA^3 . A skilled worker looking to form stable ionic liquids would not be motivated to consider Nanjundiah's teaching concerning hydrophobic ionic liquids comprising anions X having a van der Waals volume exceeding 100 \AA^3 , preferably 140 \AA^3 and Heider's generic teaching concerning $(\text{CF}_3)_2\text{N}^-$ salts. The skilled worker would not expect to get $(\text{CF}_3)_2\text{N}^-$ salts which are not hydrophobic when inserting the specific heterocyclic rings into formula I of Heider's salts.

Thus, based on the above remarks, it is respectfully requested that the rejections under 35 USC §103 be withdrawn.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,
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